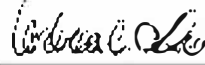


AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING		PAGE OF PAGES 1 3	
2. CONTRACT (Proc. Inst. Ident.) NO. EP-C-17-031/68HERC20F0091				3. EFFECTIVE DATE See Block 20C		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. PR-ORD-19-02249	
5. ISSUED BY CODE CAD		6. ADMINISTERED BY (If other than Item 5) CODE					
CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001							
7. NAME AND ADDRESS OF CONTRACTOR (No., street, country, State and ZIP Code) TETRA TECH, INC. Attn: John Hochheimer 10306 EATON PL STE 340 FAIRFAX VA 22030				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT			
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN		ITEM	
CODE 198549560		FACILITY CODE					
11. SHIP TO/MARK FOR CODE ORD/CPHEA CORVALLIS		12. PAYMENT WILL BE MADE BY CODE RTP FMC					
Pacific Ecological Systems Division US Environmental Protection Agency 200 S.W. 35th Street Corvallis OR 97333		RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711					
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304 (c) () <input checked="" type="checkbox"/> 41 U.S.C. 3304 (a) ()				14. ACCOUNTING AND APPROPRIATION DATA See Schedule			
15A. ITEM NO	15B. SUPPLIES/SERVICES			15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	Continued						
15G. TOTAL AMOUNT OF CONTRACT						\$99,627.00	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
	A	SOLICITATION/CONTRACT FORM			I	CONTRACT CLAUSES	
	B	SUPPLIES OR SERVICES AND PRICES/COSTS		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
	C	DESCRIPTION/SPECS./WORK STATEMENT			J	LIST OF ATTACHMENTS	
	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS			
	E	INSPECTION AND ACCEPTANCE			K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	F	DELIVERIES OR PERFORMANCE			L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	G	CONTRACT ADMINISTRATION DATA			M	EVALUATION FACTORS FOR AWARD	
	H	SPECIAL CONTRACT REQUIREMENTS					
CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE							
17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 0 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number 68HERC20R0013 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)			
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME OF CONTRACTING OFFICER Andrea Dehne			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA		20C. DATE SIGNED	
BY (Signature of person authorized to sign)				BY  (Signature of the Contracting Officer)		ELECTRONIC SIGNATURE 01/07/2020	

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
EP-C-17-031/68HERC20F0091

PAGE OF
2 3

NAME OF OFFEROR OR CONTRACTOR

TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
0001	<p>DUNS Number: 198549560 TOCOR: Scott Leibowitz Max Expire Date: 01/06/2021 Delivery: 01/06/2021 Period of Performance: 01/07/2020 to 01/06/2021</p> <p>Task Order Issuance Line Item: Technical Support for EPA/ORD Ecological Assessment Programs</p> <p>Accounting Info: 19-20-C-26XM000-000FK7XR3-2532-26A5C-1926XME121-001 1 BFY: 19 EFY: 20 Fund: C Budget Org: 26XM000 Program (PRC): 000FK7XR3 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 1926XME121-001 Funding Flag: Complete Funded: \$26,000.00</p> <p>Accounting Info: 19-20-C-26XM000-000FK7XR4-2532-26A5C-1926XME121-002 2 BFY: 19 EFY: 20 Fund: C Budget Org: 26XM000 Program (PRC): 000FK7XR4 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 1926XME121-002 Funding Flag: Complete Funded: \$17,000.00</p> <p>Accounting Info: 19-20-C-26XM000-000FK8XPW-2532-26A5C-1926XME121-003 3 BFY: 19 EFY: 20 Fund: C Budget Org: 26XM000 Program (PRC): 000FK8XPW Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 1926XME121-003 Funding Flag: Complete Funded: \$40,239.00</p> <p>Accounting Info: 19-20-C-26XM000-000FK9-2532-26A5C-1926XME121-004 BFY: 19 EFY: 20 Fund: C Budget Org: 26XM000 Program (PRC): 000FK9 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 1926XME121-004 Funding Flag: Complete Funded: \$16,388.00</p> <p>Fully Funded Firm-Fixed-Price Task Order Delivery-Invoice Payment Schedule shall not exceed a frequency greater than once a month and 90% of the task order price. Acceptance for invoicing is based on deliverable approval by the TOCOR. For efficient processing IAW FAR clause 52.232-32, performance based payment invoicing amounts will not be submitted until the TOCOR provides deliverable approval. The TOCOR will notify Tetra Tech within 14 days of submission of a deliverable of EPAs intention to approve or disapprove.</p> <p>Continued ...</p>				99,627.00

NAME OF OFFEROR OR CONTRACTOR
TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	TOCOR: Scott Leibowitz/ (541) 754-4508/leibowitz.scott@epa.gov ALTOCOR: Stephen LeDuc/ (919) 541-2183/leduc.stephen@epa.gov				

Performance Work Statement
Tetra Tech, Inc.
Contract #EP-C-17-031
PR-ORD-19-02249/SOL 68HERC20R0013
TO #: 68HERC20F0091

I. Title: Development of a wildfire water quality effects dataset

II. EAS Short Title: Wildfire water quality dataset

III. Period of Performance: 12 Months from date of Task Order Award

IV. Task Order COR:

Scott Leibowitz, PhD
U.S. Environmental Protection Agency, Office of Research and Development,
National Health and Environmental Effects Research Laboratory, Western Ecology Division
200 SW 35th St
Corvallis, OR 97330
541-754-4508 (phone)
leibowitz.scott@epa.gov

Alternate Task Order COR:

Stephen LeDuc, PhD
U.S. Environmental Protection Agency, Office of Research and Development,
National Center for Environmental Assessment (B205-01)
Research Triangle Park, NC 27709
919-541-2183 (phone)
leduc.stephen@epa.gov

V. Introduction:

Over the past 30 years, an average of 5 million acres of wildlands have burned annually, and this average has doubled in recent years. Like other natural disasters, such as flooding, wildfire is often stochastic, spatially concentrated, and catastrophic when it occurs. Wildfires threaten life, property, and pose health risks via smoke emissions and other means. To date, ORD research has generally focused on the air quality impacts of wildfire, yet wildfire can affect other environmental endpoints covered under EPA's mission and responsibilities. For instance, wildfire can affect water quality by post-fire runoff of toxins, sediment, nutrients, heavy metals, and other pollutants. These effects may be direct or indirect. For instance, wildfire might indirectly affect exceedances of a state's aquatic temperature criteria by the removal of riparian cover, thereby preventing compliance under a temperature total maximum daily load.

Under the EPA Office of Research and Development (ORD), the Air and Energy (A&E) National Program is developing a Strategic Research Action Plan (StRAP) for 2019-2022. Within Output 33 of that draft StRAP, Product 3 proposes to develop a website portal that will contain various sources of information for water quality managers. One of the key elements of this portal will be to provide these managers with state-of-the-science information on water quality effects of wildfire through a searchable database

that is to be derived from a literature review. Successful performance under original TO 68HE0C18F0902 has resulted in the need for additional work. This work was not anticipated within the original TO 68HE0C18F0902 scope; therefore, a new task order is required to build on it, which complements the previous work under TO 68HE0C18F0902.

This new TO comes under Task Area 2 (“Manage Data and Information”) of contract EP-C-17-031; PWS, including preparation of datasets and creation of performance indices to ascertain quality.

Building a searchable database for this portal will consist of two separate components: (1) a dataset containing a set of statements derived from the literature review that pertain to the effects of wildfire on specific aspects of water quality, along with other related information (e.g., keywords associated with each statement and an assessment of the relative reliability of each statement); and (2) development of a searchable, web-based database based on the dataset produced under (1). This current task order, consisting of four separate tasks, describes work to be done to produce and document the dataset described under (1) above.

The primary audience for this effort will be state and local water quality practitioners that require such information to carry out their mission, e.g., operators of public drinking water systems and stream or lake water quality agencies (e.g., state Departments of Environmental Quality or Natural Resources). Other important audiences will include EPA Regional water quality staff (focusing on the western EPA Regions, given the prevalence of wildfire in those Regions), and EPA’s Office of Water.

VI. Specific Tasks and Deliverables:

EPA shall provide to the contractor three documents, *collectively referred to here as the literature review*: 1) A document synthesizing scientific literature on wildfire effects on environmental endpoints relevant to EPA’s mission; 2) A memo that identifies relevant tools/products for identifying vulnerable endpoints and/or minimizing wildfire effects; and 3) A memo that identifies relevant best management practices (BMPs) for minimizing wildfire effects. The literature review as defined here also includes ancillary information contained in data extraction spreadsheets (Attachment 1). With concurrence of the TOCOR, new information may also be extracted from literature cited under 1-3 above. Finally, this TO allows for up to 50 additional citations that were not included under 1-3 above to be analyzed and added to the literature review.

For the current TO, the contractor shall use the literature review to develop a dataset containing research conclusions, tools, and BMPs related to the effects of wildfire on water quality – defined broadly to include water quality within streams, rivers, lakes, reservoirs, and groundwater, as well as within drinking water systems. Specifically, all statements in the literature review containing research conclusions, tools, and BMPs related to an effect of wildfire on a specific aspect of water quality will be entered into a dataset as described below. While the literature review aggregates information to produce broadly supported statements, the purpose here is to also break these down into individual or primary statements by study; for example, for a particular study, individually by habitat, climate, spatial extent, and/or by region.

Except where noted otherwise, all deliverables will be delivered as electronic files. Files shall be submitted in a format mutually agreed upon by the TOCOR and the Contractor, unless specified otherwise.

Note: No QAPP is required for this TO since no data are being collected.

Task 1. Establish communication with the TOCOR

Within 3 days of TO award and over the course of 30 days, the Contractor shall schedule a series of weekly conference calls (not to exceed 1 hour) or at a frequency requested by the TOCOR, with the TOCOR and appropriate Contractor staff to clarify outstanding technical questions and confirm the schedule and specific tasks. In collaboration with the TOCOR, the Contractor shall also establish a schedule for regular progress reports, project meetings, and other communications throughout the period of performance of this TO.

Deliverable 1. Brief progress reports as email to the TOCOR. Due monthly or as agreed upon with the TOCOR for the duration of this TO.

Task 2. Develop presentation containing approach for wildfire water quality dataset

The contractor shall provide a presentation via conference call containing an approach for how the dataset will be developed, including: the components of the dataset; the proposed architecture for the dataset; an overview of how the dataset will be constructed from the literature review; and timing and milestones.

The dataset shall be composed of the following five major fields:

- (a) A set of statements taken from the literature review pertaining to the effect of wildfire on specific aspects of water quality. The statements could consist of one or more sentences but should contain sufficient context so as to be understood as stand-alone statements. Statements will include those aggregated from a number of individual studies as well as primary statements based on particular studies.
- (b) A hyperlink to the location in the literature review final report or memos where each statement occurs, if appropriate.
- (c) Keywords associated with each statement for searching the dataset. Keywords shall be divided up into a number of sub-fields, based on the data extraction categories (Table 1) taken from the data extraction spreadsheets (Attachment 1; see below).
- (d) An assessment of the relative reliability of each statement. This will depend on both the amount and strength of evidence in the scientific literature and the amount of agreement in the scientific literature (see below).
- (e) A list of the reference ID(s) that each statement was based on.

Other fields may be added upon concurrence with the TOCOR.

Keywords should be handled differently depending upon whether the statement is a *primary* statement derived from an individual study, or an *aggregate* statement based on multiple studies. For primary statements, keywords will be based on the data extraction categories (Table 1) taken from the data extraction spreadsheets (Attachment 1).

For aggregate statements, a subset of keywords from the data extraction spreadsheets (Attachment 1) shall be included containing general information on locational information (the area(s) that the statement is relevant to), the type of aquatic resource (e.g., stream, river, lake, reservoir, drinking water

system), water quality component(s) (e.g., nitrogen, NO₃, total suspended sediments, temperature, fish biomass, drinking water, swimming), the specific water quality effect, etc.

Note that the presentation should also describe how the reliability of the statements are to be assessed (d above and the following). Reliability should be based on Attachment 4 WQCLR Level of Understanding, as well as Mastrandrea et al. (2010) (Attachment 2) and West et al. (2012) (Attachment 3) but modified as necessary to fit the current objectives.

Deliverable 2.A: Draft presentation plus presentation file on dataset architecture and approach. Due 3 weeks after literature review received by contractor from EPA.

Deliverable 2.B: Final presentation plus presentation file on dataset architecture and approach. Due 2 weeks after receiving comments from EPA on draft presentation.

Task 3. Develop wildfire water quality dataset

The contractor shall develop the dataset based on the literature review using the procedures specified under Deliverable 2.B. The dataset will be developed in a format as directed by the TOCOR (e.g., MS Excel). Note that this task allows for new information to be extracted from literature previously cited in the original literature review (i.e., the information can be taken from the literature itself, and not just from the literature review), as well as analysis and extraction of information from up to 50 new citations that were not included in the original literature review.

Note that EPA shall provide a revised version of the literature review by April 2020. Any discrepancies based on differences between the two versions of the literature review should be reconciled in the final version of the dataset.

Deliverable 3.A: Draft wildfire water quality dataset. Due 5 months after Deliverable 2.B completion.

Deliverable 3.B: Final wildfire water quality dataset, reconciling any discrepancies based on the two versions of the literature review. Due 3 weeks after receiving comments from EPA on draft dataset.

Task 4. Document methodology for and characteristics of final wildfire water quality dataset

The contractor shall produce a document containing both a description of how the dataset was created (written as a component of a methods section for a journal article) and an overview of the dataset characteristics (written as a component of a results section for a journal article). This should include the following:

- The three components of the literature review (see Section VI) plus other elements;
- Full list of reference IDs (Task 2) and associated references for all literature cited in the dataset;
- The components of the dataset, its architecture, and details on how it was constructed from the literature review;
- How the keyword list was derived;
- How reliability of statements was assessed;

- Basic characterization of the dataset, including: how many statements it contains; frequency distribution of keyword categories; percent of entries that pertain to environmental effects vs. BMPs vs. tools; statistics on geographic distribution; assessment/distribution of dataset reliability; major knowledge gaps in scientific literature; etc.

Deliverable 4.A: Draft description of dataset methodology and characteristics. Due 6 weeks after Deliverable 3.B completion.

Deliverable 4.B: Final description of dataset methodology and characteristics. Due 2 weeks after delivery of EPA comments on draft document.

Schedule of Milestones and Deliverables:

Task No.	DELIVERABLES	Schedule
1	1: Brief progress reports as email to the TOCOR	Due monthly or as agreed upon with the TOCOR for the duration of this TO
2	2.A: Draft presentation plus presentation file on dataset architecture and approach 2.B: Final presentation plus presentation file on dataset architecture and approach	Due 3 weeks after literature review received by contractor from EPA Due 2 weeks after receiving comments from EPA on draft presentation
3	3.A: Draft wildfire water quality dataset 3.B: Final wildfire water quality dataset, reconciling any discrepancies based on the two versions of the literature review	Due 5 months after Deliverable 2.B completion Due 3 weeks after receiving comments from EPA on draft dataset
4	4.A: Draft description of dataset methodology and characteristics 4.B: Final description of dataset methodology and characteristics	Due 6 weeks after Deliverable 3.B completion Due 2 weeks after delivery of EPA comments on draft document

VII. Acceptance Criteria:

The Contractor shall prepare high quality deliverables. The Deliverables shall be edited for grammar, spelling, and logic flow. The technical information shall be reasonably complete and presented in a logical, readable manner. Figures submitted shall be of high quality similar to presentations developed for national scientific forums and should be formatted as jpeg or png files. Text deliverables shall be provided in Microsoft Word 2016.

VIII. References:

Mastrandrea, M.D., C.B. Field, T.F. Stocker, O. Edenhofer, K.L. Ebi, D.J. Frame, H. Held, E. Kriegler, K.J. Mach, P.R. Matschoss, G.-K. Plattner, G.W. Yohe, and F.W. Zwiers, 2010: Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties. Intergovernmental Panel on Climate Change.

West, J.M., S.H. Julius, and C.P. Weaver. 2012. Assessing confidence in management adaptation approaches for climate-sensitive ecosystems. *Environ. Res. Lett.* 7:014016.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE		PAGE OF PAGES 1 2	
2. AMENDMENT/MODIFICATION NO. P00001		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.	
5. PROJECT NO. (If applicable)		6. ISSUED BY CAD		7. ADMINISTERED BY (If other than Item 6)	
CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		CODE		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) TETRA TECH, INC. Attn: John Hochheimer 10306 EATON PL STE 340 FAIRFAX VA 22030		(x)		9A. AMENDMENT OF SOLICITATION NO.	
CODE 198549560		FACILITY CODE		9B. DATED (SEE ITEM 11)	
		x		10A. MODIFICATION OF CONTRACT/ORDER NO. EP-C-17-031 68HERC20F0091	
				10B. DATED (SEE ITEM 13) 01/07/2020	
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required) See Schedule					
13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).				
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
	D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
DUNS Number: 198549560 TOCOR: Scott Leibowitz Max Expire Date: 01/06/2021 The purpose of this modification is to incorporate the attached EPA blanket administrative modification signed by Raoul Scott on July 30, 2020. All other terms and conditions remain unchanged. Payment: Period of Performance: 01/07/2020 to 01/06/2021 Fully Funded Firm-Fixed-Price Task Order Delivery-Invoice Payment Schedule shall not exceed a frequency greater than once a month and 90% of the task order price. Acceptance for invoicing is based on deliverable approval by the TOCOR. For efficient processing IAW FAR clause 52.232-32, performance based payment Continued ... Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
			Andrea Dehne		
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA	
(Signature of person authorized to sign)				 ELECTRONIC SIGNATURE (Signature of Contracting Officer)	
				16C. DATE SIGNED 10/19/2020	

NAME OF OFFEROR OR CONTRACTOR
TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	invoicing amounts will not be submitted until the TOCOR provides deliverable approval. The TOCOR will notify Tetra Tech within 14 days of submission of a deliverable of EPAs intention to approve or disapprove. TOCOR: Scott Leibowitz/(541)754-4508/leibowitz.scott@epa.gov ALTOCOR: Stephen LeDuc/(919)541-2183/leduc.stephen@epa.gov				

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE		PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NUMBER		3. EFFECTIVE DATE 08/13/2020		4. REQUISITION/PURCHASE REQUISITION NUMBER		5. PROJECT NUMBER (If applicable)	
6. ISSUED BY Raoul D. Scott, Director OMS/ARM/OAS/Policy, Training and Oversight Division US Environmental Protection Agency, Mail Code 3802R 1200 Pennsylvania Avenue, NW Washington, DC 20004		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code) To All EPA Contractors				<input checked="" type="checkbox"/> (X)		9A. AMENDMENT OF SOLICITATION NUMBER	
				<input type="checkbox"/>		9B. DATED (SEE ITEM 11)	
				<input checked="" type="checkbox"/> (X)		10A. MODIFICATION OF CONTRACT/ORDER NUMBER	
				<input type="checkbox"/>		10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

This contract/order is being modified in accordance with the applicability instructions in interim FAR Case 2019-009, and FAR 4.2105, requiring contracting officers to include FAR clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

See attached for the full text version of FAR 52.204-25. Contractor Acknowledgment of receipt required.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Raoul D. Scott, Director Policy, Training and Oversight Division	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA RAOUL SCOTT Digitally signed by RAOUL SCOTT Date: 2020.07.30 11:40:17 -04'00'	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

Previous edition unusable

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)

(a) Definitions. As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause

(i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE OF PAGES 1 2		
2. AMENDMENT/MODIFICATION NO. P00002		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO. PR-ORD-21-00310		5. PROJECT NO. (If applicable)	
6. ISSUED BY CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		CODE CAD		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) TETRA TECH, INC. Attn: John Hochheimer 10306 EATON PL STE 340 FAIRFAX VA 22030				(x)		9A. AMENDMENT OF SOLICITATION NO.	
						9B. DATED (SEE ITEM 11)	
				x		10A. MODIFICATION OF CONTRACT/ORDER NO. EP-C-17-031 68HERC20F0091	
						10B. DATED (SEE ITEM 13) 01/07/2020	
CODE 198549560		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required) See Schedule							
13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
CHECK ONE		A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
		B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).					
		C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
X		D. OTHER (Specify type of modification and authority) BILATERAL AGREEMENT - NO COST/PRICE POP EXTENSION					
E. IMPORTANT: Contractor <input type="checkbox"/> is not <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) DUNS Number: 198549560 TOCOR: Scott Leibowitz Max Expire Date: 05/06/2021 LIST OF CHANGES: Reason for Modification: Other Administrative Action - No Cost/Price PoP Extension due to Task 3 delay (in part due to COVID-19 and also EPA caused delay), which then subsequently delayed Task 4. Period of Performance End Date changed from 06-JAN-21 to 06-MAY-21 Total Amount for this Modification: \$0.00 New Total Amount for this Version: \$99,627.00 New Total Amount for this Award: \$99,627.00 Continued ...							
Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Andrea Dehne			
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)		16C. DATE SIGNED 12/15/2020	

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
EP-C-17-031/68HERC20F0091/P00002PAGE OF
2 2NAME OF OFFEROR OR CONTRACTOR
TETRA TECH, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>Maximum Potential Expiration Date changed to : 05/06/2021</p> <p>CHANGES FOR LINE ITEM NUMBER: 1 End Date changed from 06-JAN-21 to 06-MAY-21</p> <p>CHANGES FOR DELIVERY LOCATION: ORD/CPHEA CORVALLIS Delivery Date changed from 01/06/2021 to 05/06/2021</p> <p>Payment:</p> <p>RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711</p> <p>Period of Performance: 01/07/2020 to 05/06/2021 Fully Funded Firm-Fixed-Price Task Order Delivery-Invoice Payment Schedule shall not exceed a frequency greater than once a month and 90% of the task order price. Acceptance for invoicing is based on deliverable approval by the TOCOR. For efficient processing IAW FAR clause 52.232-32, performance based payment invoicing amounts will not be submitted until the TOCOR provides deliverable approval. The TOCOR will notify Tetra Tech within 14 days of submission of a deliverable of EPAs intention to approve or disapprove.</p> <p>TOCOR: Scott Leibowitz/(541)754-4508/leibowitz.scott@epa.gov ALTOCOR: Stephen LeDuc/(919)541-2183/leduc.stephen@epa.gov</p>				